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A Catalogue of the Schendylinae of North America including Mexico, with a Generic Key and Proposal of a New Simoporus¹ (Chilopoda: Geophilomorpha: Schendylinae)

By R. E. CRABILL, JR., Smithsonian Institution,
Washington, D. C.

As I have suggested in a previous paper, the chilopod fauna of the montane southeastern United States appears, on the one hand, to be linked with the faunas of northwestern America and eastern Asia, and, on the other hand, with those of the southwestern United States and lands to the south (1958, p. 153). It also has its own apparently distinctive faunal elements.

The idea was advanced with particular reference to the centipedes of the middle and southern Appalachian Mountains, but evidently it may also be true at least of some part of the chilopod fauna inhabiting the Ozark Plateau, a sizeable and very ancient highland just west of the great Mississippi Embayment that may have served as an elevated route of dispersal into the Midwest from the southwestern part of the continent and, in some instances, even from the Mexican Plateau.²

¹ This study was undertaken with the aid of a grant from the National Science Foundation.

² Since we are dealing with animals of low vagility and, like plants, restricted in distribution by often highly specialized edaphic and environmental moisture requirements, it is of particular interest to note that there is a number of flowering plants whose ranges extend to or toward Texas, or through Texas into Mexico. For particular information on Ozark Plateau plant names, distributions, and possible origins, see Palmer and Steyermark, 1935, especially pp. 414-417.

Through the continuing kindness of Dr. Nell B. Causey, a prominent authority on diplopods and an energetic collector, I have been able recently to study several small but valuable collections of Arkansas chilopods. This material has facilitated the accumulation of a significant body of heretofore unknown information about this poorly-known but geographically meaningful fauna. Range extensions with the discovery of many new localities, clarification of old and often questionable species identities, the discovery of new forms, important new synonymizations and combinations, new variational data—all have resulted from the study of the Causey specimens; much of this information is scheduled to appear in several papers which are in preparation at the time of this writing.

From the standpoint of distribution and faunal affinity, several of the Causey centipedes are of particular interest: a himantariid, *Stenophilus grenadae* (Chamberlin),³ previously known from one Mississippi specimen whose original description for many years precluded its disposition within the generic system; a rare sogonid, *Sogona poretha* (Chamberlin),⁴ otherwise represented only by the typical series from Louisiana; a chilenophiline, *Watophilus* (*Parawatophilus*) *dolichocephalus* (Gunthorp), known only from the Kansan types; a dignathodontid, *Tomotaenia* (*Korynia*) *urania* Crabill, known only from Missouri. Each is a member either of a higher category or of a genus that is especially characteristic of the West and Southwest, or of the Southwest and Mexico. To this growing list may now be added an additional striking example, a new schendyline, the third-known member of its genus, *Simoporus arcanus*.

The schendyline⁵ genus *Simoporus* belongs to that ensemble

³ New combination. The species was originally referred to *Haplophilus* (Chamb., 1912b, p. 435).

⁴ New combination. Originally placed in a new monotypic geophilid genus, *Nannocrix* (Chamberlin, 1912b, p. 432), *poretha* here is considered congeneric with the type-species of *Sogona*, *S. minima* Chamberlin; hence *Nannocrix* is a junior subjective synonym of *Sogona*.

⁵ The present higher categorical interpretation follows that of Attems who considered Schendylidae to be divisible into two subfamilies, Schendylinae and Ballophilinae. Chamberlin, on the contrary, accords to each of these subfamilies full family rank.

of predominantly tropical and subtropical genera ⁶ characterized by possession of the following features in combination: each coxopleuron has 1, 2, or no gland openings; the second maxillary claws are pectinate; the ultimate leg pretarsi are present and unguiform. In America south through Mexico these genera are *Mexiconyx*, *Morunguis*, *Nesonyx*, *Parunguis*, *Nyctunguis*, and *Simoporus*. (See appended catalogue and notes on *Holityx*.)

Originally described from Texas, *Simoporus* was next recorded from northeastern Mexico: now, for the first time, its range may be extended farther eastward and well northward to the general area of the Boston Mountains in northwestern Arkansas. The evidence seems to indicate a fairly extensive pattern of dispersal, one rather reminiscent of that of the Sogonidae whose more northerly American distribution, broadly speaking, ranges from Mexico through the Gulf States with incursions into the midwestern and southeastern United States.

The new species, *arcanus*, is apparently most like the Mexican *koestneri* Chamberlin, from which it may be distinguished by the criteria presented in the underlying key to the known species.

Key to the Species of Simoporus

- 1a. Pedal segments numbering 55-61. Mandibular teeth not fused into distinct dentate lamellae (Texas).....
.....*texanus* Chamberlin
- 1b. Pedal segments numbering 39 or 41. Some mandibular teeth (at least in *arcanus*) fused into distinct and typical dentate lamellae.....2
- 2a. Prosternal margin antero-centrally with a pair of flat and small but distinct denticles. 1st maxillae with a pair of distinct telopodite lappets. Male types with 39 pairs of legs (Arkansas).....*arcanus*, new species
- 2b. Prosternal margin antero-centrally without denticles. 1st maxillary telopodites reportedly without lappets (i.e., like those of Verhoeff's figure of *dampfi*, q.v. in catalogue of species). Male types with 41 pairs of legs (Mexico).....
.....*koestneri* Chamberlin

⁶ They are tropical or subtropical from the standpoint of their latitudinal distribution. Many are known from high elevations and are probably cold-adapted.

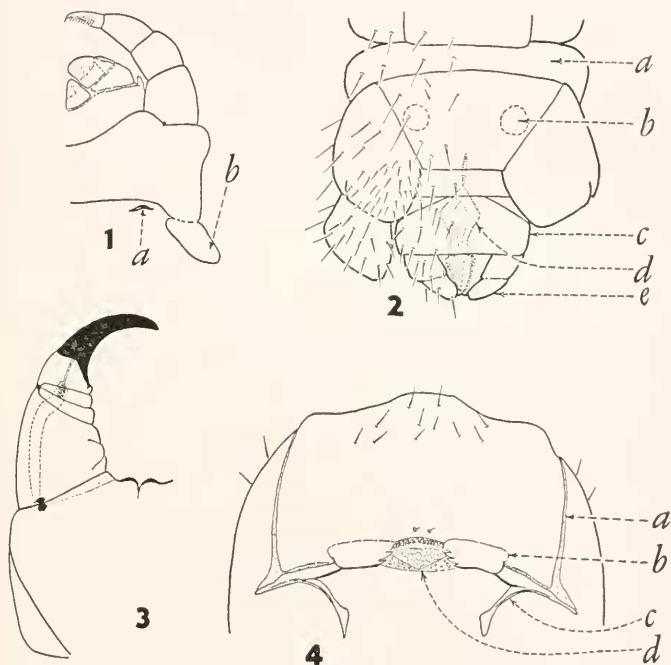
Simoporus arcanus, new species

Holotype: ♂. ARKANSAS: Washington Co., 4 miles west of Farmington. June 16, 1950. Nell B. Causey, leg. U. S. National Museum Myriapod collection 2598.

INTRODUCTORY. Length, 10 mm. Pedal segments, 39. Body shape: Very slightly attenuate anteriorly, more strongly so posteriorly; widest at $\frac{2}{3}$ the antero-posterior length. Color, light brownish-yellow throughout.

ANTENNAE. Length (expanded in Hoyer's mountant), 1.34 mm. Shape: Each article except the first longer than wide; as a whole, filiform; ultimate article equal in length to the preceding two taken together. Vestiture: Sparser on the first 4 or 5, thereafter denser and individually shorter. Ultimate article sensilla: On outer surface only; about a dozen robust, flat and hyaline modified setae arising from a slight ovate depression. CEPHALIC PLATE. Length, 0.38 mm, greatest width, 0.34 mm. Shape: Sides strongly curved; rear margin slightly concave to reveal full width of prebasal plate; dorsally somewhat domed. Coarsely areolate; setae very spare and short. Frontal suture absent; posterior divergent sulci very shallow and weak, each is broad. CLYPEUS (fig. 4). Paraclypeal sutures distinct and complete. Clypeal surface coarsely areolate; without smooth areas (plagulae), without clypeal areas anterocentrally. Setae: postantennals in one series, 1 + 1; posterior geminates (prelabrals), 1 + 1; midclypeals, in two series, 2 + 2, 3 + 3. Buccae: Each coarsely areolate; transbuccal sutures absent; setae absent. LABRUM (fig. 4). Intimately fused with clypeus, not separated from it by sutures. Central embayment broad, even, deep, the teeth numbering about 18, lateral teeth longer and thinner, the more central teeth shorter and more robust, the latter distinctly separated from each other, not fused or forming a crenulate margin. MANDIBLES. Each with two weak but distinct dentate lamellae plus a row of simple hyaline individually discrete teeth. Lamellar teeth of right mandible, 3,3; of the left, 3,4. FIRST MAXILLAE (fig. 1). Coxosternum broad, medially undivided, not sutured; without coxosternal lappets; medial lobes discrete. Each telopodite distinctly biarticulate, with

a prominent but concealed lappet. SECOND MAXILLAE (fig. 1). Isthmus very broad, not sutured, coarsely and strongly areolate. Postmaxillary sclerites attached weakly, terminal in position. Telopodite basally bicondylic; terminal claw broadly spoon-shaped, excavate, each edge with a row of long, delicate pectinae.



Simoëporus arcanus new species

1. First and second maxillae. (Ventral aspect; left halves.) Setae deleted. a = metameric pore opening. b = postmaxillary sclerite.

2. Ultimate pedal and postpedal segments. (Ventral aspect.) Setae of right side shown. a = ultimate pedal presternite. b = ultimate pedal sternite covering concealed coxopleural pore (in dashed line). c = genital sternite. d = (in stipple) male intromittent apparatus. e = left gonopod.

3. Prosternum and right prehensor. (Ventral aspect; right side.) Setae deleted. Poison gland in dashed lines, poison calyx and its efferent canal shown in stipple.

4. Clypeus, labrum, buccae. (Ventral aspect.) Setae shown. a = left paraclypeal suture. b = left labral sidepiece. c = left labral fultura, posterior arm. d = epipharynx.

PROSTERNUM (fig. 3). Anterior margin centrally with a pair of very low, rather broad, but distinct and pigmented denticles. Subcondylic sclerotic lines absent. Pleuroprosternal sutures prominent, complete to antero-lateral margin. **PREHENSORS** (fig. 3). When flexed, not surpassing anterior margin of head. No article with denticles. Tarsungular dorsal and ventral edges not serrulate; division between ungular and tarsal portion indicated by a weak but nearly complete vestigial suture. Poison calyx ovoid in outline, with relatively long, blunt digitiform appendices; situated in tibiod. Poison gland long and narrow, extending out of the trochanteroprefemur and well into the adjacent somite.

TERGITES. Basal plate anteriorly concave, revealing prebasal plate. Each tergite except basal plate and last pedal tergite with a pair of deep, complete sulci. Coarsely areolate and very sparsely setose. **SPIRACLES**. Those of first 3-5 segments subcircular; remaining spiracles essentially circular. **STERNITES**. Each but the first and last much longer than wide; coarsely areolate and very sparsely setose; without apparent sulci; without typical *carpophagus*-structures. Intercalary sternites undivided midlongitudinally; those on rear $\frac{2}{3}$'s of body very long front-to-back, bandlike. Porefields: Beginning on pedal sternite 2 and extending through 15; each is undivided and subcircular to slightly antero-posteriorly oval in shape; each field is slightly post-central in position and is very slightly raised.

ULTIMATE PEDAL SEGMENT (fig. 2). Pretergite separated from its pleurites by a distinct suture on each side. Tergite much broader than long; sides straight and convergent; rear margin essentially truncate. Presternite antero-posteriorly very long; bandlike, centrally undivided, not suturate. Sternite much wider than long; sides straight and convergent; rear margin essentially straight. Coxopleuron: With one circular, porelike opening concealed completely beneath the sternite; this pore communicating with a tubular chamber which is part of a large glandular structure of the homogenous type. Ultimate leg: About 25% longer than the penult; moderately inflated; tarsus consisting of two articles; pretarsus is large and distinctly ungui-

form; the two tarsal articles abruptly thinner than the more proximal articles; trochanter through tibia clothed subdensely with short, bristlelike setae, the tarsus with longer and fewer setae; dorsally all articles sparsely clothed with long stiff setae.

POSTPEDAL SEGMENTS (fig. 2). Gonopod biarticulate but very indistinctly so; long and narrow. Terminal pores absent.

Paratype: ♂. See collection data for holotype. The only other specimen is virtually identical with the holotype. It differs only in being somewhat lighter in color.

KEY TO THE SCHENDYLINAE GENERA OF NORTH AMERICA
INCLUDING MEXICO

- 1a. Each coxopleuron with more than 2 gland openings; the openings are true pores and are normally numerous. Ultimate pretarsus is unguiform (*Escaryus*, *Apunguis*) 2
- 1b. Each coxopleuron with 1 or 2, or with no gland openings; the openings are either typical pores, being small and essentially round, or they are larger and cleft- or slit-like apertures. Ultimate pretarsus, when present, is either unguiform or tuberculate 3
- 2a. Second maxillary claw is pectinate
. *Escaryus* Cook and Collins
- 2b. Second maxillary claw is smooth *Apunguis* Chamberlin
- 3a. Each coxopleuron without a gland opening. Second maxillary claw is pectinate. Ultimate pretarsus is present and unguiform *Nesonyx* Chamberlin
- 3b. Each coxopleuron has 1 gland opening; this is often concealed and usually pore-like. Second maxillary claw is pectinate. Ultimate pretarsus is present and unguiform (*Sinoporus*, *Mexiconyx*, *Morunguis*) 4
- 3c. Each coxopleuron has 2 gland openings. Second maxillary claw is pectinate or smooth. Ultimate pretarsus, when present, is unguiform or tuberculate (*Parunguis*, *Serrunguis*, *Nyctunguis*, *Schendyla*, *Pectiniunguis*) 6
- 4a. Ventral porefields are absent on all pedal sternites
. *Morunguis* Chamberlin
- 4b. Ventral porefields are present on at least the more anterior pedal sternites (but they may occur on most or all sternites) 5
- 5a. Prehensors when flexed extend far beyond the anterior head margin *Mexiconyx* Chamberlin

- 5b. Prehensors when flexed do not extend beyond the anterior head margin and may fall short of it.....**Simoporus** Chamberlin
- 6a. Ventral porefields absent on all pedal sternites (*Serrunguis*, *Parunguis*).....7
- 6b. Ventral porefields present on most or all, or at least on the more anterior pedal sternites (*Nyctunguis*, *Schendyla*, *Pectiniunguis*).....8
- 7a. Second maxillary claws are pectinate. Ultimate pretarsus is small, weak, and unguiform. Prehensorial blade edges apparently not serrulate.....**Parunguis** Chamberlin
- 7b. Second maxillary claws are smooth. Ultimate pretarsus is slender and tuberculate. Prehensorial blade edges are serrulate.....**Serrunguis** Chamberlin
- 8a. Second maxillary claws are smooth. Ultimate pretarsus is absent.....**Schendyla** Bergsøe and Meinert
- 8b. Second maxillary claws are pectinate. Ultimate pretarsus is absent, or minute and vestigial, or present and unguiform.....9
- 9a. Ultimate pretarsus is present and unguiform. Coxopleural gland pits are homogenous, i.e., lack constituent gland canals.....**Nyctunguis** Chamberlin
- 9b. Ultimate pretarsus is absent or present; if present, then it is vestigial and essentially tuberculate. Coxopleural gland pits are heterogenous, i.e., are composed of constituent glands and large gland canals.....**Pectiniunguis** Bollman

(To be continued)

Nomenclature Notice

All comments should be marked with the Commission's number and sent in duplicate to W. E. CHINA, British Museum (Natural History), Cromwell Road, London, S.W.7, England, before June 5, 1961. Comments received early enough will be published in the Bulletin. For details see Bull. Zool. Nomencl. 18 (1-3).

Suppression of 56 generic names published by Meigen, 1800 (Diptera) (Z.N.(S.) 191). Validation of the generic name **Myelophilus** Eichoff, 1878 (Coleoptera) (Z.N.(S.) 467). Designation of a type-species for **Euceraphis** Walker, 1870 (Hemiptera) (Z.N.(S.) 1363). Validation of the generic name **Perla** Geoffroy, 1762 (Plecoptera) (Z.N.(S.) 1451).